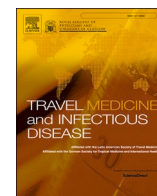




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The continuous decrease in Poliomyelitis vaccine coverage in Brazil

Dear Editor,

The COVID-19 pandemics have promoted a concerning issue for health institutions, with all efforts focused on its prevention and health care, and other diseases and treatments were neglected after this worldwide concern.

The area of vaccine-preventable diseases was highly affected due to the reduction in public health policies for the maintenance of vaccine coverage [1], mainly to avoid fake news related to vaccination, including the newly designed vaccines against SARS-CoV2.

Another problem that reduced popular adherence to vaccination was the potential risk to be infected by SARS-CoV-2, as the vaccination for these diseases occurs in hospitals and health centers, mobilized to treat COVID-19 patients, and, many countries have suspended preventive routine immunization campaigns [2].

The current reduction in vaccine coverage, in attention for infectious diseases with high capacity of transmission, can lead to the fast re-emergence of them, even those that are considered eradicated as Poliomyelitis.

Poliovirus is the etiological agent of Poliomyelitis. It is an enterovirus that belongs to the *Picornaviridae* family, presents in a small non-enveloped virion and its genome is composed by a positive sense RNA molecule of around 7.000 bp [3]. The virus is transmitted by oral-fecal route, and the infection may lead to many clinical courses that may vary from mild symptoms to death and flaccid palsy, and the individuals who have survived present increased morbidity and more hospitalizations than individuals who have not been infected by Poliovirus [4]. Importantly, millions of people lives with late effects of poliomyelitis, which potentially compromises the quality of life of the affected individuals.

According to WHO [5], in countries that use Inactivated polio

vaccine (IPV), 83% of infants were immunized with three shots and in regions that use oral polio vaccine (OPV) there was an estimate that 80% of the target group receive the vaccine in 2020.

This infectious disease is considered eradicated in many countries, except in Afghanistan and Pakistan that are endemic, but the current low vaccine coverage in many countries [2] rise a concern due to the great resumption of air travel worldwide after extreme restrictions related to the COVID-19 Pandemic.

For example, in Brazil there is a consistent reduction in vaccine coverage since 2013 (Table 1), an important year to the country due to 100.71% of infants with 15 months old were vaccinated with OPV (Brazil adhered to the WHO recommendations for the use of IPV and OPV vaccines only in 2016) [6].

However, the vaccine coverage in 2021 presented 58.10% of infants vaccinated with 3 shots (2 shots of IPV and 1 shot of OPV), 67.71% received the reinforcement of OPV (15 months old), and 52.51% of the 4-year-old target group received the booster shot of OPV.

This significant reduction does not seem to represent a direct issue caused by the COVID-19 Pandemic situation, as the three vaccination age groups have a percentage below 90% in the last 6 years, with the lowest rates recorded since 2019, culminating in –22.13% (2, 4 and 6 months old), –19.57% (15 months old) and –23.28% (4 years old) from 2019 to 2021. Therefore, it might indicate that this scenario might be due to the decreasing of vaccination campaigns and lack of awareness of the vaccination need.

Due to the resuming of international travel and borders' opening, we need to reinforce public health policies such as information and vaccination campaigns, engagement of personalities to promote the benefits of vaccination, among other strategies that can restore vaccination

Table 1

Poliomyelitis - vaccine coverage - Brazil - 2012/2021. Inactivated Polio Vaccine (IPV) and Oral Polio Vaccine - (OPV).

Target Group	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
2 (IPV), 4 (IPV) and 6 months (OPV)	0.00	92.92	86.31	84.52	74.36	73.57	72.83	74.62	68.32	58.10
15 months (OPV)	96.55	100.71	96.76	98.29	84.43	84.74	89.54	84.19	76.05	67.71
4 Years (OPV)	0.00	0.00	0.00	0.00	0.00	62.26	63.62	68.45	67.16	52.51

Source: Brazilian Ministry of Health, 2022.

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coverage to safety rates to protect these vulnerable populations and prevent eradicated diseases, as polio, to re-emerge in these locations.

Declaration of competing interest

The authors state they have no conflicts of interest to declare.

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